

seen. It evidently presents several analogies to *Alaria*, the stem near its base sometimes presenting appendages approaching to the fruit-bearing leaflets of that plant; on its surface also pores and accompanying filaments are numerous.

*Laminaria saccharina*, Lamour.—This species is very common on all parts of the coast; it never, however, attains the great size which it does in more favourable localities. From the figures accompanying this and the former paper, it might be supposed that the *sporidia* alluded to are not simple but contain *sporidiola*; such however is not the case, the inclosed bodies being composed of granular matter cohering in masses and assuming a regular arrangement. In *L. digitata* this granular matter is very abundant and has less tendency to cohere, and the regular arrangement of it is also not very evident.

[To be continued.]

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XLI. — *Catalogue of Irish Entozoa, with observations.* By O'BRYEN BELLINGHAM, M.D., Fellow of and Professor of Botany to the Royal College of Surgeons in Ireland, Member of the Royal Zoological, Geological and Natural History Societies of Dublin, &c.

[Continued from p. 260.]

### Order 3. TREMATODA.

(Derived from τρημα, *foramen*.)

“Corpus depressum vel teretiusculum, molle. Pori suctorii. Omnia individua androgyna.”—*Rud. Synop.*

THE order *Trematoda* corresponds very nearly to the order *Porocephala* of De Blainville. The species included in it, though differing much in shape from one another, have this general resemblance, that they are all provided with one or more distinct pores or suckers, disposed upon the body in different ways; and according to the number of the pores, or their disposition upon the surface, the genera have been formed.

The head is rarely separated from the body by a neck. The body is soft, either flattened, oval, elliptical, linear or cylindrical. Each individual possesses the organs of reproduction of both sexes. The species occur in mammalia, birds, reptiles and fish; they generally inhabit some part of the alimentary canal.

### Genus 10. MONOSTOMA.

(Derived from μόνος, *unus*, and στόμα, *os*.)

Body soft, either flattened or subcylindrical. A single anterior pore; no abdominal pore, or posterior terminal orifice.

This genus was established by Schrank under the name *Festucaria*, changed to *Monostoma* by Zeder, and adopted by Rudolphi and all zoologists since.

The species are not numerous: Rudolphi enumerates thirty species, of which seven are doubtful. They are most numerous in birds and fish, less common in reptiles, and are very rare in mammalia. They inhabit the alimentary canal principally; a few have been detected in the abdominal cavity and in the lungs.

The species are arranged by Rudolphi in two sections, according to the situation of the anterior solitary pore. Those included in the first section have the orifice of the pore inferior, occur only in fish, and have been by some classed together under the name *Hypostoma*. The few species in this list belong to the second section, in which the orifice of the pore is anterior.

*Pori apertura antica.*

- |                                  |   |  |
|----------------------------------|---|--|
| 1. <i>Monostoma attenuatum</i> * | { | Cæca of shieldrake ( <i>Tadorna Bellonii</i> ).    |
|                                  |   | Cæca of widgeon ( <i>Marca Penelope</i> ).         |
|                                  |   | Cæca of laughing-geese ( <i>Anser albifrons</i> ). |
| 2. ——— <i>verrucosum</i> †       | { | Cæca of pochard ( <i>Fuligula ferina</i> ).        |
|                                  |   | Cæca of shoveller ( <i>Anas Clypeata</i> ).        |
|                                  |   | Cæca of water-hen ( <i>Gallinula chloropus</i> ).  |
|                                  |   | Cæca of bald-coot ( <i>Fulica atra</i> ).          |

\* The *Monostoma attenuatum* was discovered by Rudolphi in the cæca of the snipe; he mentions the cæca of the shoveller duck as another habitat. I have obtained it from three other species; it occurred in greatest abundance in the shieldrake. This and the next species appear to be altogether confined to the cæca of birds.

The *Monostoma attenuatum* is a minute species, measuring only a line and a half in length; the colour is whitish, with a shade of yellowish red. The body is slender, flattened and smooth, obtuse and rounded posteriorly, becoming more slender anteriorly; the pore is anterior, terminal, orbicular and slightly prominent. The ovaries are situated in the posterior half of the body. From the anterior pore two white lines (apparently vessels) are seen to run backwards; they are obscured when they meet the ovaries, but posteriorly they are again seen, and can be traced to the posterior extremity.

† The *Monostoma verrucosum* has been named so from the little tubercular prominences with which the body is provided; these are seen only upon one surface, and Rudolphi calls it the abdominal surface; it appears to me to be the dorsal surface of the animal; it is in general convex. I have found this species upon two occasions in considerable numbers in the cæca of the common shoveller (*Anas Clypeata*); they are about a line in length, and about a third of a line in breadth, of a reddish yellow colour. When placed in water they

- [*Monostoma ocreatum* \*. Small intestine of mole (*Talpa europæa*).]  
 [————— *trigonocephalum* †. Stomach of turtle (*Chelonia imbricata*)]
- 

became contracted and curved, the abdominal surface apparently forming the concavity. Three rows of little prominences are seen upon the convex surface, which run parallel to one another from one extremity of the body to the other; the lateral margins of the body are subpellucid, inflexed in some. The pore is orbicular and very small. On the abdominal surface there is the appearance of two parallel vessels running through the greater part of the body.

The specimens of *Monostoma verrucosum* from the pochard (*Fuligula ferina*) are larger than those from the shoveller duck; the prominences upon the dorsal surface are also better marked, and can be seen with the naked eye. When first removed from the animal and placed in water, they become curved: the prominences being upon the convex surface, and the anterior pore projecting outside, gave them the appearance of little hedgehogs. Their colour is yellowish red or a dirty yellow; after they had lain for twelve hours in water they changed to white, and many unrolled themselves and became flat. In several there is the appearance of a posterior pore, which is not quite terminal and not prominent: in others this is wanting.

The specimens from the bald-coot (*Fulica atra*) resemble those from the shoveller duck in almost every respect. From the anterior pore the two white lines resembling vessels (before mentioned) are seen to run backwards, parallel to one another, in their course passing through the ovaries, which fill the thicker portion of the body, and to approach each other near the posterior extremity.

\* The *Monostoma ocreatum*, though it cannot be considered an Irish species, as the mole (*Talpa europæa*), in which alone it is found, is not a native of this country, is a very beautiful species, and differs remarkably from the two last-described species, which occur only in the cæca of birds. The specimens which I possess are about an inch in length (Rudolphi says it sometimes attains the length of two inches) and about half a line in breadth; in one a knot has formed upon the body, as we sometimes see in the *Tania*; the greater part of the body has a reddish brown colour, owing to the contents of the ovaries being seen through the parietes. The body is sublinear, rather flattened than cylindrical; it increases suddenly in diameter near the posterior extremity; indeed this part has somewhat the shape of a boot (*ocrea*), from which circumstance it has received its name.

† The *Monostoma trigonocephalum*, which inhabits the stomach of the turtle, cannot either be regarded as an Irish species; but as the turtle has occasionally been thrown upon the English coast, and is included in Jenyns's 'Manual of British Vertebrate Animals,' this species of Entozoon has an equal claim to be considered as British. It is about three lines in length and nearly a line in breadth; colour dirty white after remaining in spirits of wine; the head is distinct

## Genus 11. AMPHISTOMA.

(Derived from ἀμφί, *utrinque*, and σόμα, *os*.)

Body soft and cylindrical. Two pores, one anterior, the other posterior. No abdominal pore.

The genus *Amphistoma* was established by Abildgaard under the name *Strigea*, because the animal serving as the type had been discovered in the owl. Rudolphi gave it the name which it at present bears.

The species are not numerous; Rudolphi enumerates but twenty-one, of which three are doubtful. They are most common in birds; a few occur in mammalia and reptiles. They inhabit generally the alimentary canal.

They have been arranged by Rudolphi in two sections, according as the head is distinct or continuous. The species in this list (which have been determined) belong all to the first section.

*Capite discreto.*

- |                                      |   |  |
|--------------------------------------|---|--|
| 1. <i>Amphistoma longicolle</i> * .. | { | Small intestine of herring-gull ( <i>Larus argentatus</i> ).     |
| 2. ——— <i>macrocephalum</i> †        | { | Small intestine of moor-buzzard ( <i>Buteo rufus</i> ).          |
|                                      | { | Small intestine of peregrine falcon ( <i>Falco peregrinus</i> ). |

from the body, and has a triangular shape (hence its name). The pore is orbicular, rather inferior than anterior, when the animal has been kept in spirits for some time. The body is somewhat broader posteriorly than anteriorly, convex upon the dorsal, concave upon the abdominal surface; the posterior extremity is distinctly notched.

\* The *Amphistoma longicolle* was so named from the length of the neck; it occurs only in birds of the gull or heron tribe. It is about half an inch in length, cylindrical, and of a reddish brown colour. The head is distinct, of a subcordate shape, broadest where it joins the neck; the neck is wrinkled transversely, and increases in thickness until it meets the body; the latter is shorter than the neck and smooth. This species is well figured in Bremser's folio work.

† The *Amphistoma macrocephalum*, from the small intestine of the moor-buzzard (*Buteo rufus*), is a minute species, the longest specimen measuring only a line and three-quarters; colour yellowish white; head thicker but shorter than the body, from which it is separated by a narrow fissure, as if a string had been tied round it; body subcylindrical, incurved; anterior pore irregularly lobed; lobes apparently four or five; posterior pore small and orbicular; margin sometimes crenate; in a few specimens a small cylindrical body projected slightly from it.

- |                                  |   |  |
|----------------------------------|---|--|
| 3. <i>Amphistoma isostomum</i> * | } | Small intestine of wild duck ( <i>Anas Boschas</i> ).            |
| 4. ——— <i>gracile</i> † . . . .  |   | Small intestine of northern diver ( <i>Colymbus glacialis</i> ). |
| 5. ——— <i>cornu</i> ? ‡ . . . .  |   | Small intestine of heron ( <i>Ardea cinerea</i> ).               |
| 6. ——— <i>sphærule</i> § . .     |   | Small intestine of rook ( <i>Corvus frugilegus</i> ).            |

*Species dubiæ.*

- |                                   |   |   |
|-----------------------------------|---|---|
| 7. <i>Amphistoma</i>    . . . . . | } | Small intestine of sparrow-hawk ( <i>Accipiter fringillarius</i> ). |
|                                   |   | Small intestine of moor-buzzard ( <i>Buteo rufus</i> ).             |

\* The *Amphistoma isostomum* has a general resemblance to the *A. macrocephalum*; it is however much smaller. My specimens are about half a line in length: the animal appears to be divided into two equal parts by a simple fissure extending round it; the anterior is regarded as the head, the posterior as the body; the former has a white colour, the latter is yellow.

† The *Amphistoma gracile* is rather a rare species; Bremser discovered it in the *Mergus Merganser*. I found it in the small intestine of the *Colymbus Immer* (young of *Colymbus glacialis*). It is about two lines and a half in length; colour white. The head is distinct from the body, nearly of the same diameter as it, and about a third of its length. The body of the recent animal is cylindrical; it becomes flattened in spirits of wine, and sometimes concave on the abdominal, and convex on the dorsal surface. The anterior pore is large and cup-shaped; after it has lain in spirits it presents a lobated appearance: the posterior pore is somewhat triangular, not quite terminal, more upon the inferior surface of the caudal extremity; it becomes orbicular and terminal when kept in spirits of wine.

‡ I have only once met with this species; the specimens which I possess are very minute, and have some of the characters of the *Monostoma cornu*, with which Rudolphi says it may be readily confounded.

§ The *Amphistoma sphærule*, from the small intestine of the rook (*Corvus frugilegus*), is scarcely a line in length, and of a dirty yellow colour; the head and body are distinct, but this is not so well marked as in other species; the body is cylindrical, about twice the length of the head. The anterior pore is lobed, the posterior orbicular and smaller.

|| This species of *Amphistoma*, which I found in the small intestine of the sparrow-hawk and moor-buzzard, has some resemblance to the *Amphistoma pileatum* of Rudolphi's 'Synopsis'; from which it differs in the terminal pore being larger than the anterior, and in the body being shorter and thicker.

8. *Amphistoma* \* Small intestine of black scoter (*Oidemia nigra*).  
 9. ——— .. Small intestine of crow (*Corvus Corone*).  
 [————— .. Intestines of turtle (*Chelonia imbricata*).]

\* I only once met with this species of *Amphistoma*, and have only a single specimen; it was alive when removed from the intestine of the bird. It is nearly two lines in length; the head distinct, about half the length of the body, whiter, and more cylindrical; body flattened and wider, the edges crenate. The pores appear to be of equal size; if there is any difference, the anterior is rather larger; it is also rather inferior than terminal. The oviducts run along each side of the body near the margin, and appear to contain numerous ova; a yellowish canal is seen in the median line, commencing where the head and body join, and passing backwards towards the terminal pore.

[To be continued.]

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XLII.—*Notices of British Fungi*. By the REV. M. J. BERKELEY,  
M.A., F.L.S.

[Continued from vol. vi. p. 439.]

[With a Plate.]

257. *Agaricus rachodes*, Vitt. Mang. p. 158. t. 20; Fr. Ep. p. 13.

I have found this species in great abundance and perfection in Lord Fitzwilliam's park at Milton. The flesh when broken becomes red, the substratum of the pileus is beautifully silky, and there is a peculiarity about the habit; besides it is not edible; still it must be confessed that it is extremely near to *Ag. procerus*, to which it has been referred by authors. There is no doubt, notwithstanding the hesitation of Fries, that Sowerby's figure, tab. 190, represents the true *Ag. procerus*. I take this opportunity of remarking that *Ag. piluliformis*, Fr. Ep. p. 25, is nothing more than the young of *Ag. spadiceus*, as indeed is noticed in the text of Bulliard and Ventenat.

258. *Ag. chrysodon*, Batsch, f. 212.

This very beautiful species occurred in profusion in a wood at King's Cliffe in the autumn of 1842. I had never seen it previously. It not only grew under the lime-underwood, but amongst grass in the open glades. It resembles very closely in many respects *Ag. eburneus*, but is beautifully distinguished by the golden yellow pubescence which is sprinkled here and there over the plant, but principally on the stem and margin of the pileus. Sometimes the gills are elegantly edged with yellow flocci. The smell is strong, like that of *Ag. cossus*.

\*259. *Ag. Columbetta*, Fr. Syst. Myc. p. 44. In woods, King's Cliffe.